



# **PUD NARRATIVE**

**JULY 2022**



Town of Elizabeth, Colorado

## **PUD DEVELOPMENT NARRATIVE**

**Owner:**

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Elizabeth, CO 80107  
PO Box 3229  
Parker, CO 80134

**New Point Properties, LLC**

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**Applicant/ Developer:**

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**Engineering Consultants:**

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**Traffic Consulting:**

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# Elizabeth West Development

Town of Elizabeth, Colorado

## PROJECT INTRODUCTION

The Elizabeth West planned development seeks to establish a community consistent with the Town of Elizabeth's Master Plan policies. The plan provides a mix of land uses, generally decreasing in intensity away from Highway 86, interspersed with open space and pedestrian corridors. In line with the Town of Elizabeth Comprehensive Plan, the parks and open space system connects the community with the Town of Elizabeth and preserves natural features, such as ephemeral drainage and existing ponds. Complementary uses such as commercial/retail/office/mixed-use are provided along State Highway 86.

## PROJECT SITE BACKGROUND

The Elizabeth West Development Plan and Guide provides land use regulations and standards for the design and development of a community comprising approximately 425 acres. The community is generally situated south of Highway 86 and immediately east of Legacy Ridge St.

## ZONING

The Elizabeth West site is currently zoned Agriculture (A-1) in the Town of Elizabeth.

PUD zoning shall be used to define parcels and their associated uses. Allowable densities are defined for each parcel within the land use chart provided in the PUD Guide. There are no minimum unit requirements for any given parcel. In no event shall the maximum unit count of 623 units be exceeded at Elizabeth West without an amendment of the PUD and supporting documentation.





## **DEVELOPMENT SCHEDULE AND PHASING PLAN**

Development is generally expected to occur in three phases beginning with the northeastern-most portion of the site and proceeding towards the southwest. Build out of the Elizabeth West community is projected to take between 7 and 10 years.

Please see preliminary phasing schedule below.

## **TOWN OF ELIZABETH MASTER PLAN**

Proposed land uses are consistent with the intent of the Town of Elizabeth's Master Plan. Composed of mostly residential uses interspersed with open space and park uses, the development plan generally depicts a decrease in the intensity of development as the distance from Highway 86 increases, a more detailed analysis is included in this narrative.







## PROPOSED WATER AND SEWER SERVICE

Elizabeth West PUD is proposing to connect into and extend the existing Town of Elizabeth water and sewer infrastructure to serve the site.

At this time, we anticipate main lines to be extended west along Highway 86 into the site. We have computed preliminary main line sizes to get an understanding of the scope that will be required. Further modeling is necessary to determine line sizes and exact locations to serve the development. At this time we anticipate a 15" main sewer will be necessary to serve the development at the downstream end, with a minimum of 8" mains at the lots.

Water mains will be primarily 8" with loops of 12" and 15" serving the 8". It may be necessary for the Town to provide additional storage for domestic water on this site. Once the models are produced and further design is considered the required infrastructure can be determined.

See below for preliminary calculations.



### ELIZABETH WEST - Preliminary Sanitary Sewer Main Calculations

Date: May 16, 2022

#### Sanitary Sewer Flow Calculations

Input Summary:	Persons:	<b>2.7</b>
	GPCD:	<b>90</b> Section 500, Elbert County Construction Standards
	Peak Factor Method:	<b>2.5 - 5</b> PF = 3.8/(ADF) ^0.17

#### Full Buildout Peak Day Flow Calculation

Use	Units	Persons	GPCD	Average Flow (GPD)	Average Flow (MGD)	Average Flow (CFS)	Peak Factor	Peak Flow (GPD)	Peak Flow (CFS)
Residential	623	2.7	90	151,389	0.15	0.234	4.47	676,709	1.047
Commercial	39	acres	1,000	39,200	0.039	0.061	4.47	175,224	0.271
<b>Total</b>				<b>190,589</b>	<b>0.191</b>	<b>0.295</b>	<b>4.47</b>	<b>851,933</b>	<b>1.318</b>

#### Pipe Sizing Input Values

Pipe Diameter (in)	Roughness Coefficient	Slope (ft/ft)
12	0.012	0.0025

#### Civil 3D Express Results

Depth of Flow in Pipe:	0.61 feet
	7.32 inches

#### Partially Full Pipe Flow Calculation

Pipe % full:	61.0 %
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#### Manning's for Full or Half Full Flow, Calculate Required Diameter

$$d = 1.33 (n * Q / s^{.5})^{.3/8} \quad 28-4 \text{ CERM}$$

$$d = 0.864 \text{ feet}$$

$$10.4 \text{ inches}$$

Summary : At peak flow a 12" pipe at minimum slope can carry the sewer from the site. Suggest 12" pipe or larger to allow for further development.



**ELIZABETH WEST - Preliminary Domestic Water Main Calculations**

Date: May 16, 2022



**Water Demand Flow Calculations**

Input Summary:	Persons:	<b>2.7</b>
	GPCD:	<b>145</b> Section 400, Elbert County Construction Standards
	Peak Factor Method:	<b>6</b>

**Full Buildout Peak Day Flow Calculation**

Use	Units	Persons	GPCD	Average Flow (GPD)	Average Flow (MGD)	Average Flow (CFS)	Average Flow (GPM)	Peak Factor	Peak Flow (GPD)	Peak Flow (CFS)	Peak Flow (GPM)
Residential	623	2.7	145	243,905	0.24	0.377	169	6.00	1,463,427	2.264	1,016
Commercial	39	acres	1,651	64,389	0.064	0.100	45	6.00	386,334	0.598	268
Total				308,294	0.308	0.377	214	6.00	1,849,761	2.862	1,285

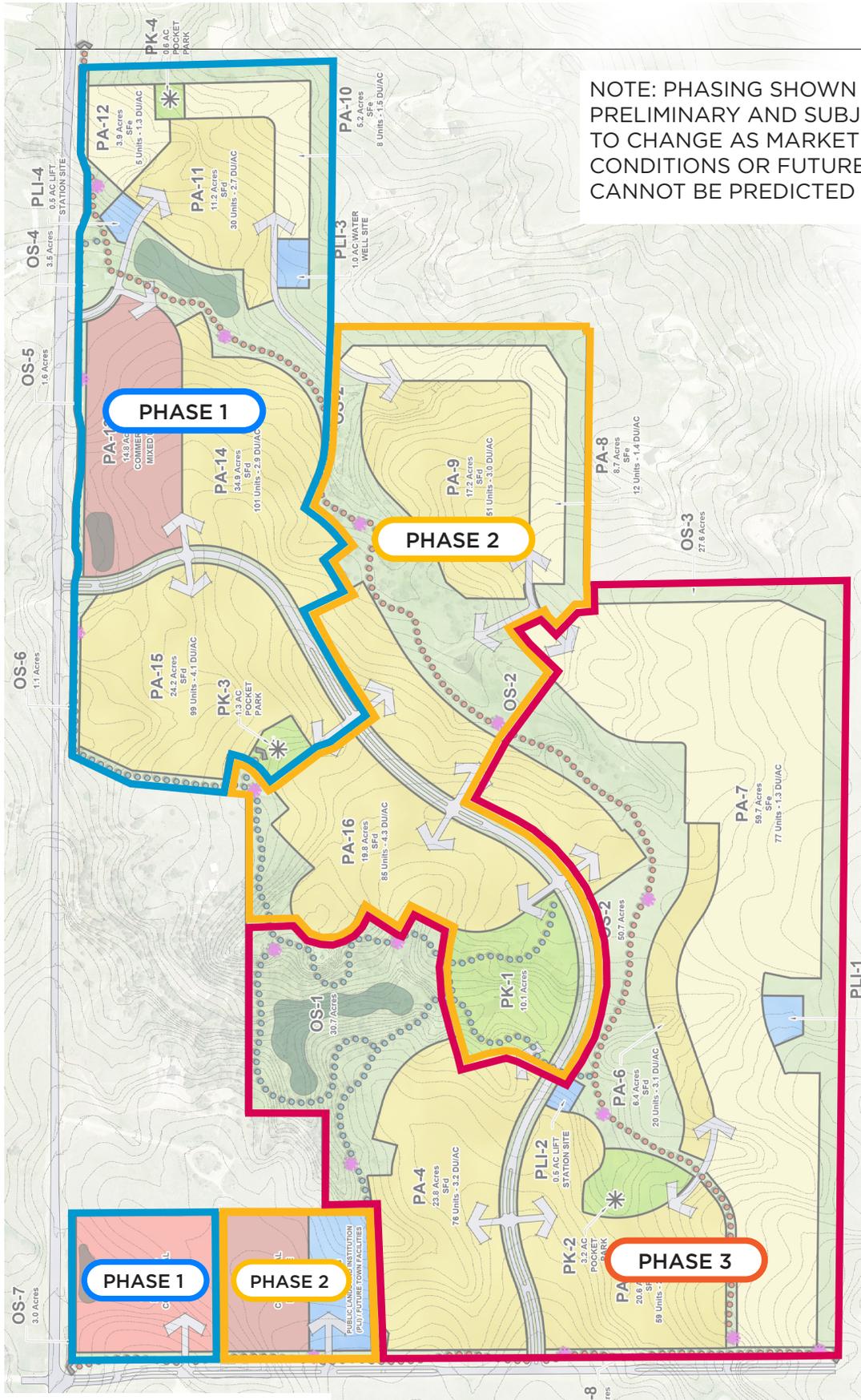
**FIRE FLOW (PROJECTED)**

Use	Construction Type	Sprinklers	req. flow (gpm)	Duration (hr)	Max Area (sf)
Residential	V	No	1,500	2	3,600
Commercial	V	Yes	2,150	4	25,000

\* 50% reduction in fire flow allowed with sprinklers

**Summary:**

The system will need to be capable of a minimum of 1,285 gpm peak flow plus a 2,150 gpm fire flow. These flows will need to be modeled to determine pipe size within the system. At this time it is estimated that 8" mains will serve a majority of the residential areas within the site with 12" and 15" looped waterlines providing the majority of the supply.



ESTIMATED CONSTRUCTION SCHEDULE:  
 PHASE 1: 2023-24  
 PHASE 2: 2027-28  
 PHASE 3: 2030-31





## COMPREHENSIVE PLAN COMPLIANCE

The Town of Elizabeth Comprehensive Plan generally depicts the Elizabeth West property as a combination of Open Space along the southern boundary, moving north is a band of Estate Residential, continuing north the majority of the property is identified as Low Density Residential, and generally along the Highway 86 frontage is depicted as Retail/Commercial.

The proposed plan for Elizabeth West generally follows this land use pattern, as more detailed plans have been prepared additional areas of Open Space have been identified, generally following the natural topography of the site, and an area of the property that includes some significant tree cover. Additionally, the eastern portion of the Retail/Commercial depicted in the Comprehensive Plan has been analyzed for marketability and has been sized to best fit the market potential.

### Low Density Residential

**“Low Density Residential” identifies locations where lower density residential development, typical of post-war suburban communities around Colorado, would logically locate.** As depicted on the future land use plan, these areas are focused in particular along Highway 86 to the west of Elizabeth and near Highway 86 and County Road 21, to the east of Town. This land use category assumes a general range for residential densities of 2 to 4 dwelling units per acre (on a gross basis). Within Low Density Residential, the Town also encourages the use of “clustered development” techniques that would preserve larger areas of trees or other key open space and environmental assets as open space, and cluster homes in other areas of a development.



### Estate Residential

**The future land use plan assumes that some areas within the Town limits of Elizabeth would develop in a much lower residential orientation, ranging from one home on a half acre parcel to one home on a two acre parcel.** This general density range would be similar to many of the existing residential subdivisions that have been developed on the edges of Elizabeth, within Elbert County, over the last few decades.





## COMPREHENSIVE PLAN COMPLIANCE

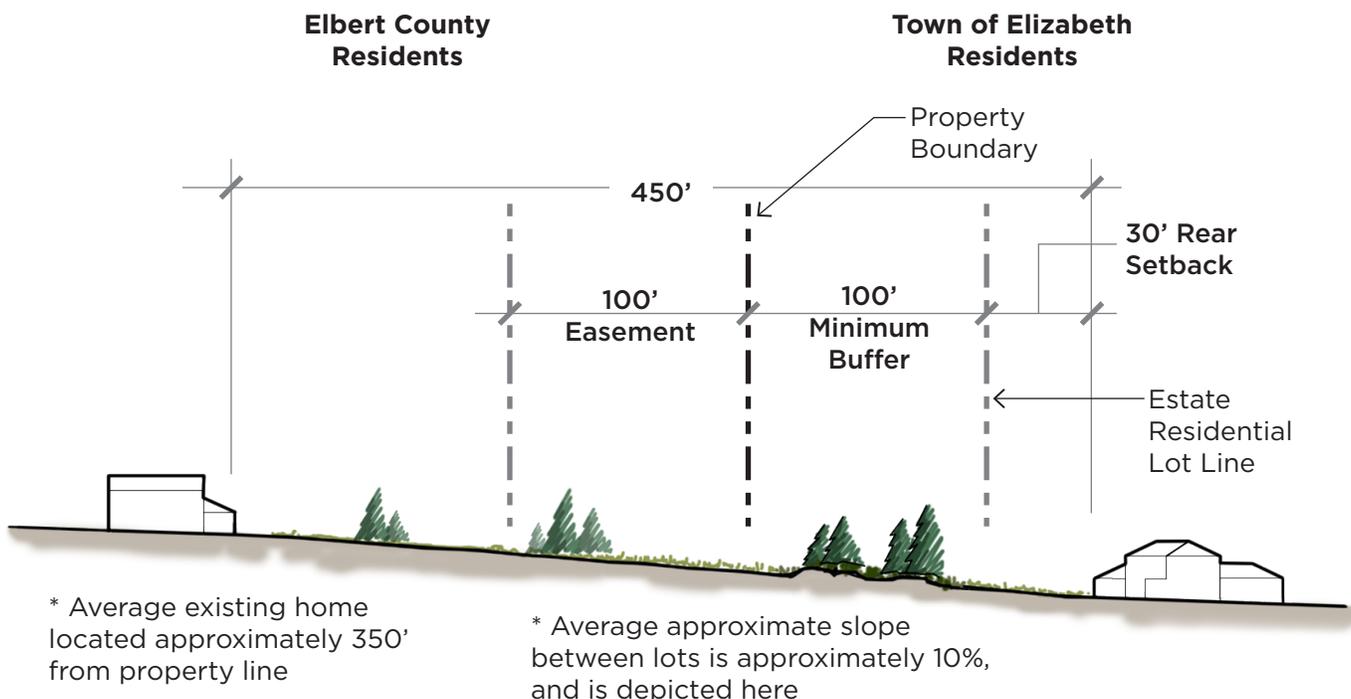
### Parks & Open Space

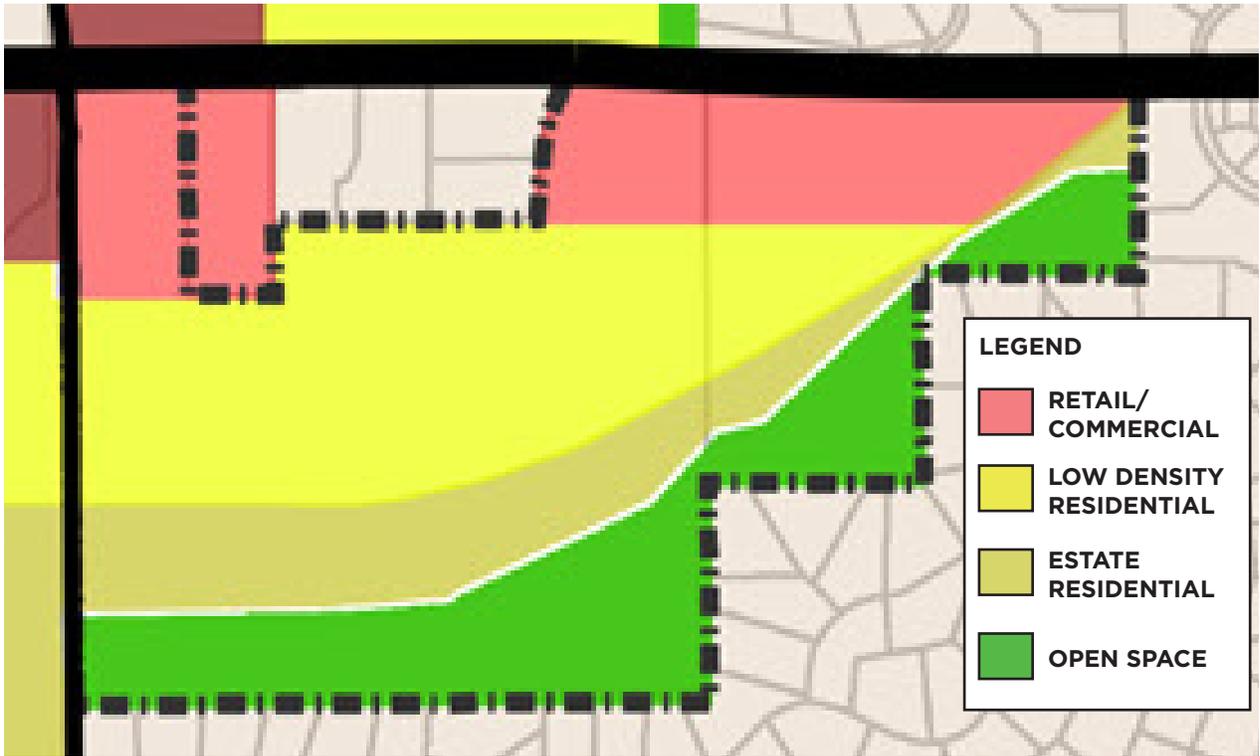
The Comprehensive Plan served as a framework for developing the parks and open spaces at Elizabeth West. Open spaces and trail corridors are integrated throughout the community and provide safe and direct pedestrian access to parks and other parts of the community. The proposed primary Trail Corridor matches the alignment shown in the Comprehensive Plan and also coincides with the existing drainage on the site.

Much of the open space planning considered the preservation of natural resources to be a high priority. As outlined in the Comprehensive Plan (Section 6, Policy 3.3), care was taken to preserve as much of the existing site trees and natural drainage patterns as possible. While the Comprehensive Plan identifies a large swath of open space along the southern property line, this designation ignores the natural drainage and existing stands of evergreens. The proposed development plan is completely in line with the stated goals and principles of the Comprehensive plan:

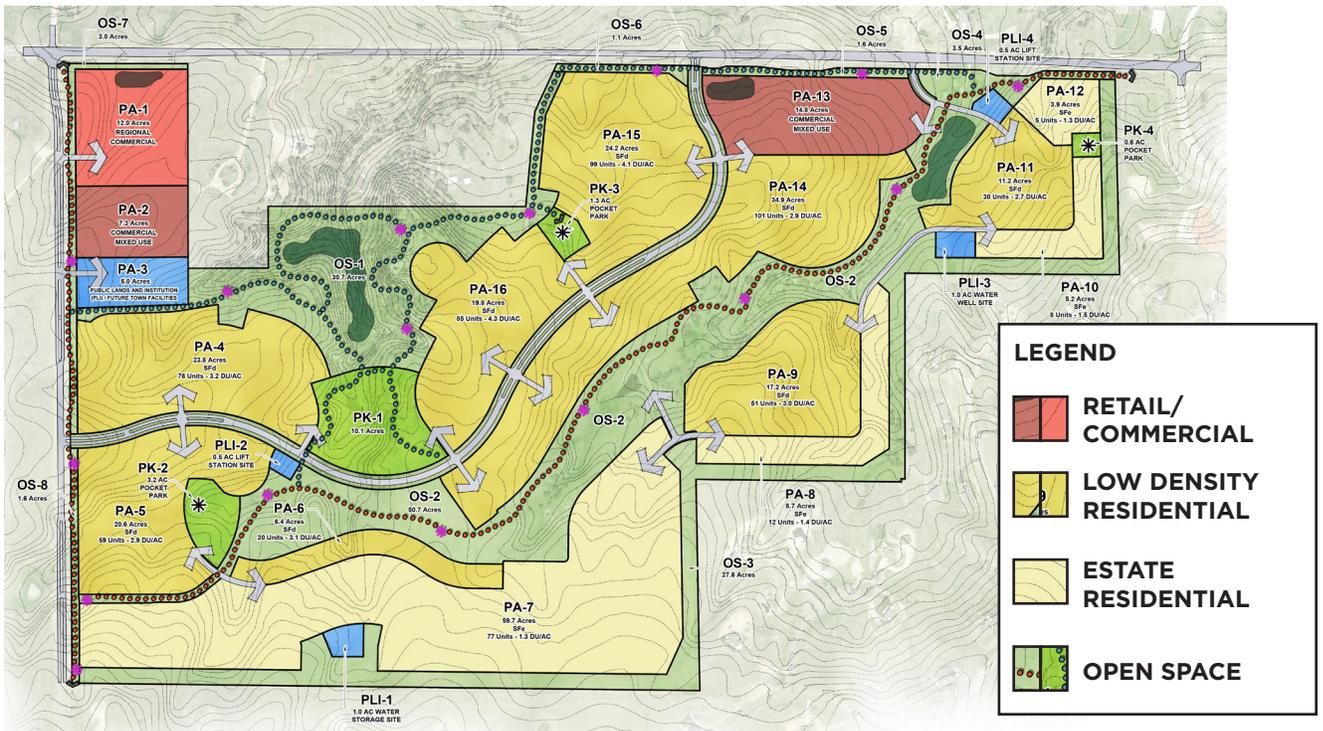
1. Creates a well-connected community by providing safe and direct pedestrian access to parks and other parts of the community.
2. Provides a High-Quality System of Parks, Open Space, Trails and Recreation Facilities by committing to develop a 5+ Acre Neighborhood Park and Recreation Facility and creating an open space network of over 100 acres, more than 25% of the site.
3. Nurture a Healthy Natural Resource Environment by preserving existing stands of trees and maintaining existing drainage patterns.
4. Leverage parks, recreation, and open space to make Elizabeth a desirable place by integrating an abundance of parks and open space into the Elizabeth West community

The proposed plan also incorporates a 100' wide tract along the southern property line with anticipated berming and vegetation to provide a physical buffer from the existing adjacent homes. Estate Residential planning areas, with minimum half-acre lots, are proposed along the full length of this buffer which is in line with what is shown on the Future Land Use Map.

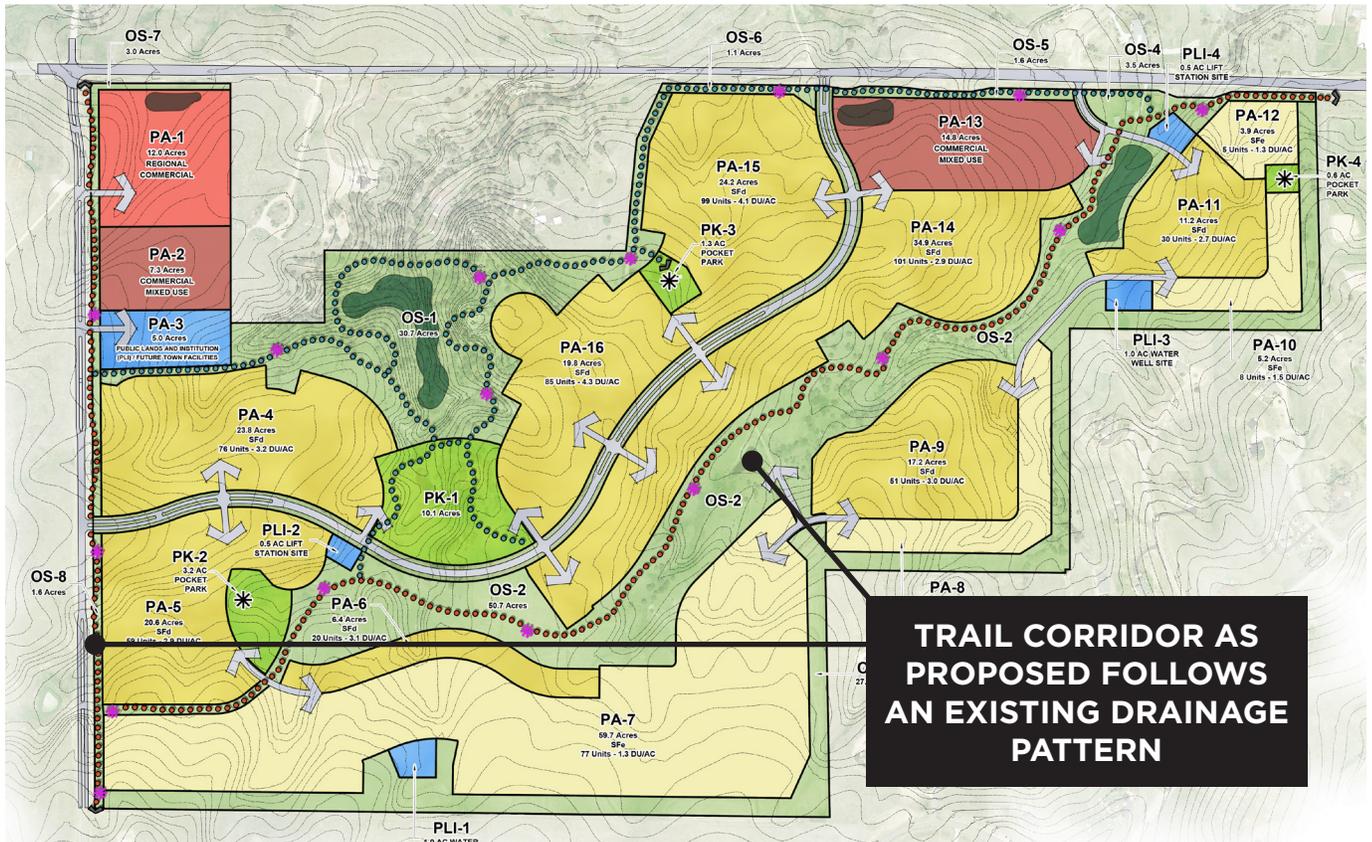
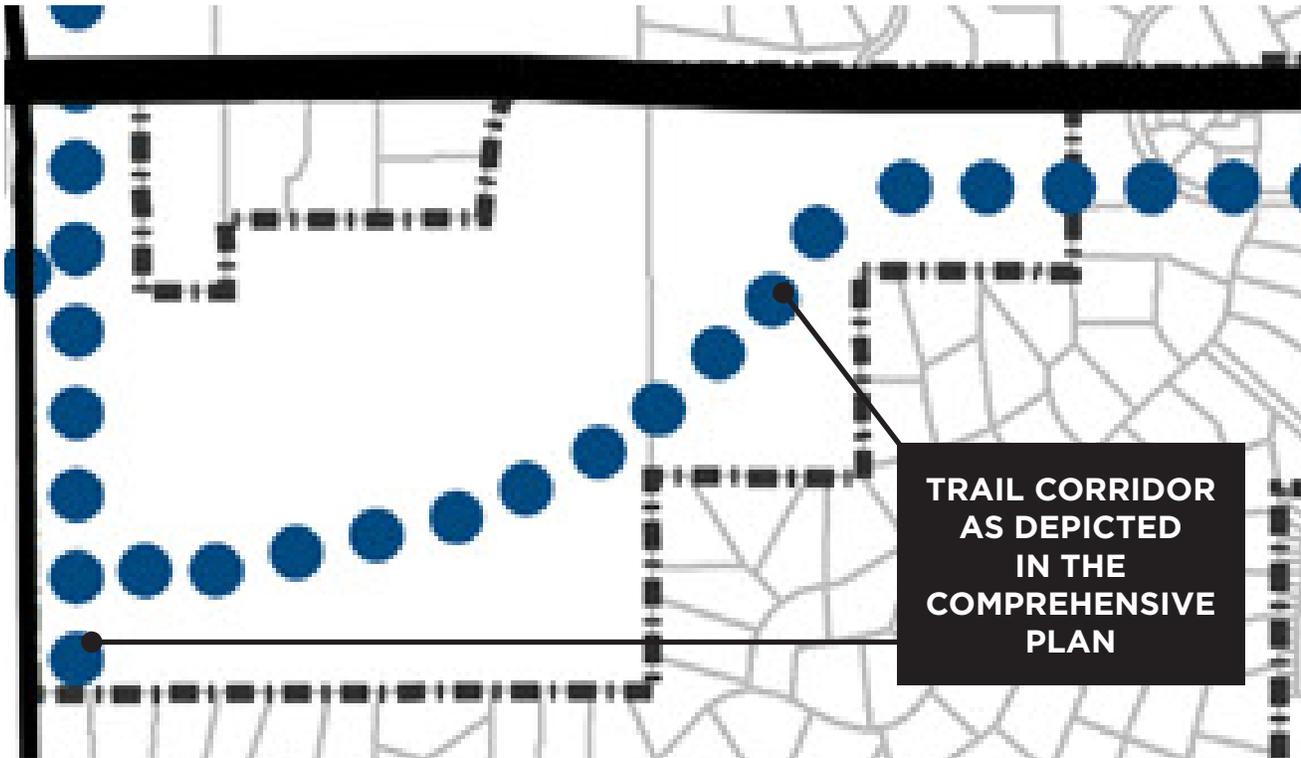




The comprehensive plan supports approximately 132 ER dwelling units at 2 DU/AC and 668 LR dwelling units at 4 DU/AC, for a total of 800 units. The comprehensive plan seems to depict about 105 acres of Open Space.



The proposed PUD has converted Retail Commercial zoning to Residential - in line with the Fiscal Impact Study submitted with this PUD. The maximum number of units proposed in the PUD is 623, far less than what the comprehensive plan would support. Additionally, the PUD proposes 134.8 acres of active and passive Open Space.





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### **TOWN OF ELIZABETH 2040 TRANSPORTATION PLAN**

Included in the submittal is a Traffic Study prepared by LSC Consultants, our team has reviewed the Town of Elizabeth 2040 Transportation Plan and we believe we are in compliance with the plan. We look forward to working with the Town as we move through the review process to confirm that our plan is in compliance with the 2040 Transportation Plan.

### **TOWN OF ELIZABETH WATER AND SEWER SYSTEM MASTER PLAN**

Included in the submittal is the required Water Adequacy Study. We will work with the Town through the review process to ensure compliance with the Water and Sewer Master Plan. Additionally, as required in the Annexation agreement, all areas for Water Storage, Future Well Sites, and Future Lift Stations are identified in the PUD Plan.